

Application Serial No. 10/049,179
Amendment dated August 30, 2004
Reply to Office Action mailed June 28, 2004 (Paper No. 8)

Amendments to the Specification:

Please amend the paragraph at page 2, lines 10-13 as follows:

Fig. 14 (a) shows a front view ~~(a)~~, ~~a bottom view (b)~~ and ~~a left side view (c)~~ of the conventional objective lens driving apparatus described in the Official Gazette of Japanese Laid-open Public Patent Application Hei 5-342607.

Fig. 14 (b) shows a ~~front view (a)~~, a bottom view ~~(b)~~ and ~~a left side view (c)~~ of the conventional objective lens driving apparatus described in the Official Gazette of Japanese Laid-open Public Patent Application Hei 5-342607.

Fig. 14 (c) shows a ~~front view (a)~~, ~~a bottom view (b)~~ and a left side view ~~(c)~~ of the conventional objective lens driving apparatus described in the Official Gazette of Japanese Laid-open Public Patent Application Hei 5-342607.

Please amend the paragraph at page 15, lines 22-23 as follows:

“Member” means an optional member. Typically, it is a lens protector (FIG. 13 (b) and FIG. 13 ©).

Please replace the BRIEF DESCRIPTION OF THE DRAWINGS section of the specification appearing at pages 16-18 of the specification with the following section:

FIG. 1(a) is a front view, ~~a sectional view taken along the A-A line and a sectional view taken along the B-B line of a movable section~~ of the objective lens driving apparatus of embodiment 1. FIG. 1(b) is a sectional view taken along the A-A line of FIG. 1(a). FIG. 1(c) is a sectional view taken along the B-B line of a FIG 1(a).

FIG. 2 is a perspective view in schematic form depicting the configuration of the reinforcing rib of the objective lens driving apparatus of embodiment 1.

FIG. 3 is a graph showing frequency characteristic of the objective lens driving apparatus of embodiment 1.

FIG. 4(a) is a front view ~~and a sectional view taken along the A-A line~~ of a movable section of the objective lens driving apparatus of embodiment 2. FIG. 4(b) is a sectional view taken along the A-A line of FIG. 4(a).

FIG. 5 is a perspective view in schematic form depicting the configuration of the reinforcing rib of the objective lens driving apparatus of embodiment 2.

FIG. 6(a) is a front view ~~and a sectional view taken along the A-A line~~ of a movable section of the objective lens driving apparatus of embodiment 3. FIG. 6(b) is a sectional view taken along the A-A line of FIG. 6(a).

FIG. 7 is a perspective view in schematic form depicting the configuration of the reinforcing rib of the objective lens driving apparatus of embodiment 3.

FIG. 8(a) is a front view ~~and a sectional view taken along the A-A line~~ of a movable section of the objective lens driving apparatus of embodiment 4. FIG. 8(b) is a front view and a sectional view taken along the A-A line of FIG. 8(a).

FIG. 9 is a perspective view in schematic form depicting the configuration of the reinforcing rib of the objective lens driving apparatus of embodiment 4.

FIG. 10 is a front view, ~~a bottom view and a sectional view taken along the B-B line~~ of a movable section of the objective lens driving apparatus of embodiment 5. FIG. 10(b) is a bottom view of FIG. 10(a). FIG. 10(c) is a sectional view taken along the B-B line of FIG. 10(a).

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FIG. 11(a) is a perspective view in schematic form depicting the configuration of the reinforcing rib of the objective lens driving apparatus of embodiment 5[[,]]. FIG. 11(b) and FIG. 11(c) depict ~~and a view showing~~ a manufacturing method for manufacturing the objective lens driving apparatus of embodiment 5.

FIG. 12 is a front view of a movable section of the objective lens driving apparatus of embodiment 6.

FIG. 13(a) is a perspective view in schematic form depicting the configuration of the reinforcing rib of the objective lens driving apparatus of embodiment 6[[,]]. FIG. 13(b) and FIG. 13(c) depict ~~and a view showing~~ a manufacturing method for manufacturing the objective lens driving apparatus of embodiment 6.

FIG. 14 is a view depicting the configuration of the conventional objective lens driving apparatus.

It is noted that a part or whole of the figures are schematically depicted for diagrammatic representation and they do not necessarily reflect actual relative size and position of components ~~showed~~ shown therein.

Please amend the paragraph at page 20, lines 17-25 as follows:

FIG. 1 (a) shows a front view (a), FIG. 1 (b) shows a sectional view (b) taken along the A-A line and FIG. 1 (c) shows a sectional view (c) taken along the B-B line of a movable section of the objective lens driving apparatus of embodiment 1 according to the present invention. FIG. 2 shows a perspective view in schematic form depicting the configuration of the reinforcing rib 13a of the objective lens driving apparatus of embodiment 1 (The reinforcing rib 13a is represented larger than life.)

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Please amend the paragraph at page 22, line 23 through page 23, line 1 as follows:

Referring to ~~a sectional view (b) taken along the A-A line of FIG. 1 (b)~~ (a sectional view viewed from right side along the A-A line of the front view of FIG. 1 (a)) and FIG. 2, arrangement method of windings of coils will be explained hereinafter.

Please amend the paragraph at page 24, lines 1-6 as follows:

Referring to FIG. 1 (c), a cross sectional view ~~(c)~~ taken along the B-B line of FIG. 1 (a), wiring paths 3a and 3b of the focusing coil 3 between the coil restraining part 5a of the support printed board 5 and the focusing coil winding part of the lens holder 13 having the reinforcing ribs will be described.

Please amend the paragraph at page 26, lines 8-14 as follows:

FIG. 4(a) shows a front view ~~(a)~~, and FIG. 4(b) shows a sectional view ~~(b)~~, taken along the A-A line of a movable section of the objective lens driving apparatus of embodiment 2. FIG. 5 shows a perspective view in schematic form depicting the configuration of the reinforcing rib 14a of the objective lens driving apparatus of embodiment 2. (The reinforcing rib is presented larger than life.)

Please amend the paragraph at page 28, lines 11-15 as follows:

Referring to FIG. 4(b) ~~a sectional view (b) taken along the A-A line of FIG. 4~~ (a sectional view viewed from right side along the A-A line of the front view of FIG. 4(a)) and FIG. 5 arrangement method of winding of coils will be explained hereinafter.

Please amend the paragraph at page 31, lines 6-12 as follows:

FIG. 6(a) shows a front view ~~(a)~~, and FIG. 6 (b) shows a sectional view ~~(b)~~ taken along the A-A line of FIG. 6(a) of a movable section of the objective lens driving apparatus of embodiment 3. FIG. 7 shows a perspective view in schematic form depicting the configuration

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of the reinforcing rib 16a of the objective lens driving apparatus of embodiment 3. (The reinforcing rib is represented larger than life.)

Please amend the paragraph at page 33, lines 5-9 as follows:

Referring to FIG. 6 (b) ~~a sectional view (b) taken along the A-A line of FIG. 6~~ (a sectional view viewed from right side along the A-A line of the front view of FIG. 6 (a)) and FIG. 7, arrangement method of windings of coils will be explained hereinafter.

Please amend the paragraph at page 36, lines 3-9 as follows:

FIG. 6(a) shows a front view (a), and FIG. 6(b) shows a sectional view ~~(b)~~ taken along the A-A line of a movable section of the objective lens driving apparatus of embodiment 4. FIG. 9 shows a perspective view in schematic form depicting the configuration of the reinforcing rib 17a of the objective lens driving apparatus of embodiment 4. (The reinforcing rib is represented larger than life.)

Please amend the paragraph at page 38, lines 1-5 as follows:

Referring to FIG. 8 (b) ~~a sectional view (b) taken along the A-A line of FIG. 8~~ (a sectional view viewed from right side along the A-A line of the front view of FIG. 8 (a)) and FIG. 9, arrangement method of windings of coils will be explained hereinafter.

Please amend the paragraph at page 39, lines 8-12 as follows:

In the objective lens driving apparatus of embodiment 4, a wiring path of the focusing coil 3 is guided by the groove of the reinforcing rib so as to be fixed at the path 3b (as shown in FIG. 1 (c) which is a sectional view ~~(c)~~ taken along the B-B line of FIG. 1 (a)).

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Please amend the paragraph at page 40, line 25 through page 41, line 10 as follows:

FIG. 10 (a) shows a front view ~~(a)~~, and FIG. 10 (b) shows a right side view ~~(b)~~ (showing the appearance of the apparatus from which the support printed board 5 is removed), and FIG. 10 (c) shows a sectional view ~~(c)~~ taken along the B-B line of a movable section of the objective lens driving apparatus of embodiment 5. FIG. 11(a) shows a perspective view in schematic form depicting the configuration of the reinforcing rib of the objective lens driving apparatus of embodiment 5. (The reinforcing rib is represented larger than life.), and FIG. 11(b) and FIG. 11(c) show the manufacturing method of the objective lens driving apparatus according to this invention.